

# High Repetition Rate Systems (1)

Number of kHz Systems is now increasing exponentially:

- Graz                            2   kHz   400  $\mu$ J    5 years of continuous kHz operation completed; excellent results, high reliability & stability;
- Herstmonceux                2   kHz   400  $\mu$ J    operational (but hesitating a little bit ☹)
- Zimmerwald                 0.1 kHz    8 mJ    operational, excellent results
- TIGO                            0.1 kHz    8 mJ    operational, increasing results
- NGSLR                         2   kHz    60  $\mu$ J    Progressing, but still in test phase ...
- China                            1   kHz    1 mJ    Plan: ALL (5) SLR stations => kHz  
Control Systems, ET ready and tested;  
1st kHz Laser expected end of 2008  
+ San Juan applied; + new Urumqui kHz SLR
- Russia                         0.3 kHz                            First station: Data delivery started
- Potsdam                        2   kHz   400  $\mu$ J    Control System ready, Laser: 2009/03

**(written last midnight, after 2 Wodkas ☹ ☹ )**

# High Repetition Rate Systems (2)

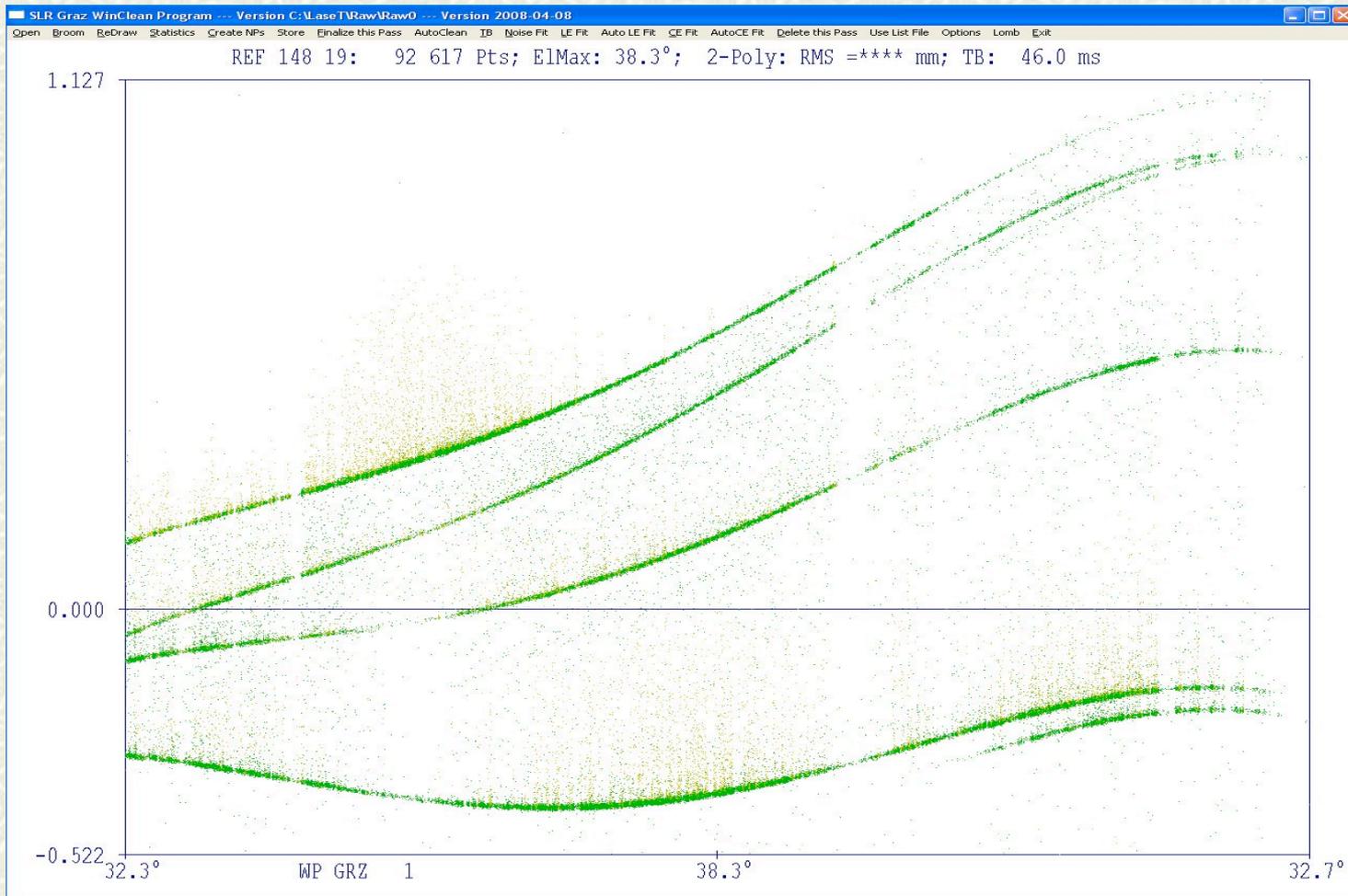
Additional results, applications, outputs of kHz SLR appearing:

- Satellite Spin Determinations: At low spin rates => Only with kHz SLR possible; Long Time Series now available (Lageos); higher accuracy with kHz SLR;
- Optical Response Retrieving: kHz SLR as a powerful tool: Faster, better, easier ...
- mm accuracy from cm targets: „Leading Edge“ Post-Processing; sub-mm NPs; => LAGEOS; AJISAI
- LIDAR applications: As a by-product, automatically, in parallel with SLR;

NOT in our session, but also using / planning kHz SLR:

- ⇒ SEEING measurements: automatically, routinely, in parallel with SLR;
- ⇒ kHz Ranging to Mars (Transponder);

# High Repetition Rate Systems (3)



Reflector: 2008 / day 148: TB + 46 ms; RB + 384 m; about 90.000 Returns